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10/808,365	03/25/2004	Chuong Ngoc Ngo	ALC 3121	4735

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EXAMINER

RIYAMI, ABDULLA A

ART UNIT	PAPER NUMBER
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2616

MAIL DATE	DELIVERY MODE
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03/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,365	NGO ET AL.	
	Examiner	Art Unit	
	ABDULLAH RIYAMI	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-12, and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, and 14-21 is/are rejected.
- 7) ☒ Claim(s) 7 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to an amendment filed on 12/19/2007.
2. Claims 1, 5, 7, 11, 13, 14, and 16 have been amended.
3. No claim has been added or cancelled.
4. Claims 1-21 remain pending in the application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 5-6, 9, 11-12, and 14 -19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (US 7266124 B2).

In claim 1, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), centrally, in a network management context, the method comprising the steps of:

- a. establishing a full transport mesh of bi-directional Label Switched Paths (LSPs) (see column 7, lines 30) between a plurality of managed Provider Edge (PE) communications network nodes in a managed communications network

(see column 8, lines 8-10); and

b. establishing a full signaling mesh of targeted Label Distribution Protocol (LDP) signaling sessions between the plurality of PE communications network nodes (see column 3, lines 1-25).

c. removing a PE communications network node from the group (see column 2, lines 10-15).

In claim 3, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4) wherein prior to issuing LSP commissioning commands, the method further comprises steps of:

a. determining whether a managed targeted LSP session already exists between a pair of PE communications network nodes in the group (see column 7, lines 50-65); and

b. determining whether a provisioning parameter associated with the discovered LSP complies with a corresponding transport mesh provisioning parameter (see column 7, lines 50-65);

c. conditionally including the discovered LSP in the transport mesh if compliance exists (see column 7, lines 50-65).

In claim 5, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), wherein decommissioning a selected LSP (see column 7, lines 10-23, 25-35 and also see columns 9 and 10), the method further comprises steps of:

- a. determining the two PE communications network nodes corresponding to the ends of the selected LSP (see column 9, lines 31-55);
- b. determining whether content is being conveyed via the selected LSP in respect of an actively provisioned VPN service (see column 9, lines 31-55); and
- c. selectively issuing LSP decommissioning commands (see column 10, lines 1-5 and column 7, lines 10-20) to the two PE communications network end nodes when a determination is made that no content is being conveyed via the selected LSP (see column 7, line 30).

In claim 6, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), wherein adding a PE communications network node to the group (see column 7, lines 10-13 and lines 51-65), the method further comprises steps of:

- a. deriving a plurality of PE communications network node pairs, each pair including the additional PE communications network node and one of the PE communications network nodes in the group (see column 7, lines 50-65); and
- b. issuing LSP commissioning commands to the additional PE communications network node and each PE communications network node in the group, to establish an LSP corresponding to each PE communications network node pair determined (see column 7, lines 30-34).

In claim 9, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4) wherein prior to issuing targeted LDP commissioning commands, the method further comprises steps of:

- a. determining whether a managed targeted LDP session already exists between a pair of PE communications network nodes in the group (see column 7, lines 50-65); and
- b. including the discovered targeted LDP session in the signaling mesh (see column 7, lines 15-23).

In claim 11, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), wherein decommissioning a selected LDP (see column 7, lines 10-23, and also see columns 9 and 10), the method further comprises steps of:

- a. determining the two PE communications network nodes corresponding to the ends of the selected LDP session (see column 9, lines 31-55);
- b. determining whether signaling information is being conveyed via the selected LDP session in respect of an actively provisioned VPN service (see column 9, lines 31-55); and
- c. selectively issuing LDP decommissioning commands (see deleted, column 10, lines 1-5 and column 7, lines 10-20) to the two PE communications network end nodes when a determination is made that no content is being conveyed via the selected LDP session (see column 7, line 30).

In claim 12, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), wherein adding a PE communications network node to the group (see column 7, lines 10-21), the method further comprises steps of:

- a. deriving a plurality of PE communications network node pairs, each pair including the additional PE communications network node and one of the PE communications network nodes in the group (see column 7, lines 50-65); and
- b. issuing targeted LDP session commissioning commands to the additional PE communications network node and each PE communications network node in the group, to establish a targeted LDP session corresponding to each PE communications network node pair determined (see column 7, lines 10-23).

In claim 14, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), further comprising the step of:

- a. establishing a full transport mesh of bi-directional Label Switched Paths (LSPs) (see column 7, lines 30) between a plurality of managed Provider Edge (PE) communications network nodes in a managed communications network (see column 8, lines 8-10); and
- b. establishing a full signaling mesh of targeted Label Distribution Protocol (LDP) signaling sessions between the plurality of PE communications network nodes (see column 3, lines 1-25).
- c. ascribing an identifier (see column 8, lines 24-45) to one of: a transport mesh of LSPs, and a signaling mesh of targeted LDP sessions.

In claim 15, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), further comprising tracking

one of: a transport mesh and a signaling mesh in a network management system repository (see VPN DNS, column 7, lines 10-23).

In claim 16, Kim et al. discloses a network management system centrally provisioning full mesh Multi-Protocol Label Switching (MPLS) connectivity in a managed communications network in support of Virtual Private Network (VPN) service provisioning, the network management system (see figure 4, block 40) comprising:

- a. a network management system repository tracking managed Provider Edge (PE) communications network nodes in the managed communications network (see column 3, lines 30-39, and figure 4, block 40);
- b. a full content transport Label Switched Path (LSP) (see column 7, lines 30) mesh configuration and provisioning means for managing a plurality of content transport LSPs between a selected group of managed PE communications network nodes (see column 7, lines 25-67 and column 8, lines 1-10); and
- c. a full targeted Label Distribution Protocol (LDP) signaling (see column 3, lines 1-25) session mesh configuration and provisioning means for managing a plurality of targeted LDP signaling sessions between the selected group of PE communications network nodes (see column 7, lines 25-67 and column 8, lines 1-10)
- d. a PE communication network node removing means for removing a PE communications network node from the group (see column 2, lines 10-15).

In claim 17, Kim et al. discloses a network management system wherein each PE communications network node in the group of managed PE communications network nodes comprises a Label Switching Router (LSR) (see column 8, lines 24-46).

In claim 18, Kim et al. discloses a network management system wherein the full content transport LSP mesh configuration and provisioning means comprises a human-machine-interface (see VPN DNS managing information of PEs, column 3, lines 25-35 figure 3).

In claim 19, Kim et al. discloses a network management system wherein the full targeted LDP signaling session mesh configuration and provisioning means comprises a human-machine interface (see VPN DNS managing information of PEs, column 3, lines 25-35 and figure 3).

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 2, 4, 8, 10, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 7266124 B2) in view of Ould-Brahim et al. (US 2003/0177221 A1).

In claim 2, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), comprising: a group of PE communications network nodes participating in the managed communications network (see columns 9 and 10), each PE communications network node comprising a Label Switched Router (LSR) (see column 8, lines 24-45); deriving a corresponding plurality of PE communications network node pairs from the selected group of PE communications network nodes (see column 7, lines 51-65) and issuing LSP commissioning commands

to each PE communications network node in the group to establish an LSP in respect of each corresponding PE communications network node pair (see column 7, lines 24-34 and also see columns 9 and 10).

Kim et al. does not expressly disclose selecting means.

Ould-Brahim et al. discloses selecting means (see paragraph 20, lines 18-27).

Kim et al. and Ould-Brahim et al. are analogous art because they are from the same field of endeavor of multi-protocol label switching between provider edges.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Ould-Brahim et al.'s selection means (see paragraph 20, lines 18-27) in Kim et al. network management system (see figure 4, block 40) for establishing LSP sessions based on communication parameters.

The motivation to combine would have been to have a method for implementing resource allocation, configuring, and establishing layer 2 and layer 3 virtual private network services between provider edges.

In claim 4, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), wherein commissioning an additional LSP (see column 7, lines 10-23), the method further comprises steps of: issuing LSP commissioning commands to each PE communications network node in the pair to establish the additional LSP therebetween (see column 7, lines 24-34 and also see columns 9 and 10).

Kim et al. does not expressly disclose selecting a pair of PE communications network nodes from the group.

Ould-Brahim et al. discloses selecting a pair of PE communications network nodes from the group (see paragraph 20, lines 18-27).

Kim et al. and Ould-Brahim et al. are analogous art because they are from the same field of endeavor of multi-protocol label switching between provider edges.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Ould-Brahim et al.'s selection means (see paragraph 20, lines 18-27) in Kim et al. network management system (see figure 4, block 40) for establishing LSP sessions based on communication parameters.

The motivation to combine would have been to have a method for implementing resource allocation, configuring, and establishing layer 2 and layer 3 virtual private network services between provider edges.

In claim 8, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), wherein establishing the full signaling mesh, the method further comprises steps of:

- a. a group of PE communications network nodes participating in the managed communications network (see figure 4);
- b. deriving a corresponding plurality of PE communications network node pairs from the selected group of PE communications network nodes (see column 7, lines 50-65); and
- c. issuing targeted LDP session commissioning commands to each PE communications network node in the group to establish a targeted LDP session in respect of each corresponding PE communications network node pair (see column 7, lines 19-24).

Kim et al. does not expressly disclose selecting means.

Ould-Brahim et al. discloses selecting means (see paragraph 20, lines 18-27).

Kim et al. and Ould-Brahim et al. are analogous art because they are from the same field of endeavor of multi-protocol label switching between provider edges.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Ould-Brahim et al.'s selection means (see paragraph 20, lines 18-27) in Kim et al. network management system (see figure 4, block 40) for establishing LSP sessions based on communication parameters.

The motivation to combine would have been to have a method for implementing resource allocation, configuring, and establishing layer 2 and layer 3 virtual private network services between provider edges.

In claim 10, Kim et al. discloses a method of provisioning support for Virtual Private Network (VPN) services (see abstract and figure 4), wherein commissioning an additional targeted LDP session (see column 7, lines 18-23), the method further comprises steps of:

- a. a pair of PE communications network nodes from the group (see figure 4 and column 7, lines 51-67);
- b. a corresponding pair of interfaces, each interface being associated with a respective PE communication network node in the pair (see figure 4, and column 7, lines 51-67);
- and
- c. issuing targeted LDP session commissioning commands to each PE communications

network node in the pair to establish the additional targeted LDP session therebetween (see column 7, lines 18-23).

Kim et al. does not expressly disclose selecting means.

Ould-Brahim et al. discloses selecting means (see paragraph 20, lines 18-27).

Kim et al. and Ould-Brahim et al. are analogous art because they are from the same field of endeavor of multi-protocol label switching between provider edges.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Ould-Brahim et al.'s selection means (see paragraph 20, lines 18-27) in Kim et al. network management system (see figure 4, block 40) for establishing LSP sessions based on communication parameters.

The motivation to combine would have been to have a method for implementing resource allocation, configuring, and establishing layer 2 and layer 3 virtual private network services between provider edges.

In claim 20, Kim et al. discloses a network management system (see figure 4, block 40) but does not expressly disclose it further comprising one of: managed PE communications network node filtering means; and managed PE communications network node pair selection means.

Ould-Brahim et al. discloses it further comprising one of: managed PE communications network node filtering means, and managed PE communications network node pair selection means (see paragraph 11 and 20).

Kim et al. and Ould-Brahim et al. are analogous art because they are from the same field of endeavor of multi-protocol label switching between provider edges.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Ould-Brahim et al.'s selection means (see paragraph 11 and 20) in Kim et al. network management system (see figure 4, block 40) for establishing sessions based on communication parameters.

The motivation to combine would have been to have a system for implementing resource allocation, configuring, and establishing layer 2 and layer 3 virtual private network services between provider edges.

In claim 21, Kim et al. discloses a network management system (see figure 4, block 40) but does not expressly disclose it further comprising one of: LSP discovery means, targeted LDP session discovery means, and LSP parameter comparison means.

Ould-Brahim et al. discloses it further comprising one of: LSP discovery means, targeted LDP session discovery means, and LSP parameter comparison means (see paragraph 28).

Kim et al. and Ould-Brahim et al. are analogous art because they are from the same field of endeavor of multi-protocol label switching between provider edges.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Ould-Brahim et al.'s LDP discovery means (see paragraph 28) in Kim et al.'s network management system (see figure 4, block 40) for signaling and session establishment.

The motivation to combine would have been to have a system for implementing resource allocation, configuring, and establishing layer 2 and layer 3 virtual private network services between provider edges.

Allowable Subject Matter

7. Claims 7 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art fails to disclose the combination of selecting at least one provisioned LSP terminating at the PE communications network node to be removed; determining the two PE communications network nodes corresponding to the ends of the at least one selected LSP; determining whether content is being conveyed via the at least one selected LSP in respect of at least one actively provisioned VPN service; selectively issuing LSP decommissioning commands to the corresponding two PE communications network end nodes of the at least one selected LSP when a determination is made that no content is being conveyed through the at least one selected LSP; and excluding the PE communications network node from the group if all selected LSPs have been decommissioned.

Response to Arguments

8. Applicant's arguments filed on 12/19/2007 have been fully considered but they are not persuasive. Applicant argues that the prior art fails to teach removing a PE communications network node from the group. Examiner respectfully disagrees with

Applicant characterization of the prior art. Kim et al. (7266124) does teach of removing a PE communications network node from the group (see column 2, lines 10-15, (a bypass connection setup against the failure of a specific node or link (PE))).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

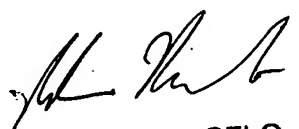
Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABDULLAH RIYAMI whose telephone number is (571)270-3119. The examiner can normally be reached on Monday through Thursday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on (571)272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR


MELVIN MARCELO
PRIMARY EXAMINER